

REMARKS

The allowability of Claims 18, 20 and 21 was withdrawn in view of new rejection presented. Claims 18, 20 and 21 were rejected under 35 USC 102(b) as being anticipated by Boyd (US 3,562,058).

The Applicant respectfully traverses the Examiner's rejections and requests reconsideration. The Boyd teaches an apparatus for the breaking up of a scribed wafer 6 by sealing it in a vacuum seal bag 3,4, placing it on a rubber surface 32 (see paragraph 3, lines 4-28), and roller a roller 10 over the top to break the wafer 6 along the scribes). This is a brute force methodology of separating sections and contains none of the novel limitations of the present application.

The Examiner argues

- 1) that Col 1, lines 28-38 lay the foundation for Boyd teaching a plurality of electrical components formed on the substrate
- 2) that Boyd teaches alignment of the pre-scored planes with a splitting element 32
- 3) that the vacuum seal bag 3,4 anticipates the claimed removable shield element to reduce board flex

The Applicant respectfully traverses these arguments.

First, Col 1, lines 28-38 mention in passing that it is common for a number of components or circuits to be formed on semiconductor material. Boyd, while mentioning this in a background statement, does not go on in the specification to address loading the semiconductor material without damage to these components. As a matter of fact, Boyds entire method of separation comprises pressing the entire assembly onto a rubber mat utilizing a gigantic roller. This in no way teaches the claimed limitations of the present invention wherein the electrical components shielded from direct force, where a splitting element is aligned with the pre-scored plane and not the entirety of the array, and where board flex is

reduced by loading of the shield rather than the board. None of these claimed limitations or the cited advantages are taught or anticipated by Boyd.

Furthermore, the argument that Boyd teaches alignment of the pre-scored planes with a splitting element is flawed. There is no alignment at all and element 32 is not a splitting element at all but a large rubber semi-flexible platform. There is clearly no alignment necessary or required for such a crude rendition of breaking. This limitation is not taught nor anticipated by Boyd.

Finally, the argument that the vacuum seal bag 3,4 in Boyd is the equivalent of the claimed removable shield element is clearly in error. There is absolutely no reference within Boyd for support of the proposition that the vacuum bag acts to reduced board flex, acts to prevent board loading from damaging the electrical components, or acts to transfer torque to the board. The vacuum bag is taught to be a thin flexible film that does nothing more than retain the pieces once they have been broken apart by a large roller. They do not reduce board flex, they allow it, that is how the Boyd invention works. There is no teaching, and common sense dictates otherwise, that a flexible vacuum bag will somehow protect the electrical components by taking the loading. Rather the flexible bag will simply transfer the load from the oversized roller directly onto such components. Nothing in Boyd teaches otherwise. This limitation is clearly not taught by Boyd.

These limitations are not taught or anticipated by Boyd either alone or in combination. Boyd teaches the old method of crudely smashing apart a circuit board array by pressing it into a flexible rubber surface. It teaches absolutely NO ability to reduce board flex, NO use of a shield element, and NO alignment of the pre-scored planes. The vacuum bag of Boyd cannot be found to be the equivalent of any of these limitations. It is a thin flexible film (column 2, line 28-38) that will transfer force from the roller 10 directly down into anything below it or

between it. This fails to teach the claimed limitations of the present invention and therefore the rejections should be withdrawn.

In light of the arguments presented and the lack of proper teaching found in the cited reference, the Applicant respectfully seeks reconsideration from the Examiner.

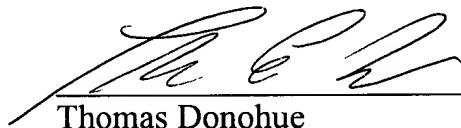
CONCLUSION

The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

The Examiner is authorized to charge any fees required to Deposit Account No. 50-0476.

Respectfully submitted,



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